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McGuire Woods Suite 1800 1750 Tysons Boulevard McLean, VA 22102-4215				
			EXAMINER KIM, RICHARD H	
			ART UNIT 2871	PAPER NUMBER

DATE MAILED: 10/10/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/092,513

Applicant(s)

KIM, YOUNG-DUK

Examiner

Richard Kim

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 March 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakurai et al. (US 5,108,318) in view of admitted prior art (AAPA).

Referring to claim 1, Sakurai et al. discloses a connector comprising a housing (see Fig. 4, ref. 42) having a through hole (see Fig. 4, ref. 42a, 42b); and a hanging projection portion formed at an inner bottom surface of the through hole (see Fig. 4, ref. 40); and a body portion inserted into the through hole from one side opening of the through hole (see Fig. 4, ref. 20), for providing a power supply line with power supplied through the other side opening of the through hole (see col. 3, lines 20-33), wherein the body portion comprises a joint portion for fixing the body portion to the power supply line (see Fig. 4, ref. 22), a head portion having a step portion engaged with a hanging projection of the housing (see Fig. 4, ref. 40, 33), and a connection portion formed with an inclination that is negatively inclined along its insertion direction (see Fig. 4, ref. 20), for connecting the head portion thereby connected with the joint portion (see Fig. 4, ref. 22, 20). However, the reference does not disclose that the head portion has a hanging jaw; and that the negatively inclined portion faces the inner bottom surface of the housing, and that the body portion is a single unit divided into a plurality of integral portions.

AAPA discloses a head portion comprising a hanging jaw, and that the body portion is a single unit and divided into a plurality of integral portions (see Fig. 3A, ref. 166A, 166).

It would have been obvious to one having ordinary skill in the art at the time the invention was made for the device to comprise a hanging jaw as opposed to the step portion in order to further lock the terminal with the housing to prevent dislodging between the two. Further, whether the step-like portion is integral to the housing and the hanging jaw is integral to the connector, or vice versa, either arrangement would provide an equally effective locking mechanism between the housing and the terminal. Therefore, such a modification would be functionally equivalent. Moreover, it has been held that a mere reversal of the essential working parts of a device involves only routine skill in the art. *In re Einstein*, 8 USPQ 167. Further, it would have been obvious to one having ordinary skill in the art at the time the invention was made for the negatively inclined portion to face the inner bottom surface of the housing since such a modification only accounts for the overall orientation of the connector. If the connector were to be rotated 180 degrees, the inclined portion would indeed face the bottom surface of the housing. Moreover, both inclines are directed toward the center of the terminal, allowing additional space between the connector and the housing. Therefore, whether the incline faces the inner bottom surface or the top surface of the housing, the direction in which the incline faces is not a critical limitation, and neither orientation provides a clear advantage over the other. Furthermore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the body portion be a single unit and divided into a plurality of integral portions since one would be motivated to improve the stability of the device. Through

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such a modification, there would be less separate pieces involved in the device, improving overall durability.

Referring to claim 2, Sakurai et al. discloses that the inclination has an inclination angle in a range of about 9 degrees to 10 degrees.

3. Claims 3-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee (US 5,921,819) in view Sakurai et al. and admitted prior art (AAPA).

Referring to claims 3, 5 and 6, Lee discloses a device comprising a lamp for generating a light (see Fig. 2, ref. 16); a power supply line of which one end is connected to the lamp (see Fig. 2, ref. 24); and a connector connected to the other end of the power supply line, for providing external power to the lamp through the power supply line (see Fig. 2, ref. 26). However, the reference does not disclose that the connector comprises a housing having a through hole and a hanging projection at an inner bottom surface of the through hole; and a body portion inserted into the through hole from one side opening of the through hole, for providing the power supplying line with the external power through the power supply line, and wherein the body comprises a joint portion for fixing the body portion to the power supply line, a head portion having a hanging jaw engaged with the hanging projection of the housing, and a connection portion formed with an inclination that is negatively inclined along its insertion direction and faces with the inner bottom surface of the housing, the head portion thereby connected with the joint portion; wherein a distance between the head portion and the inner portion of the inner bottom surface of the housing on which the hanging projection is formed is different from that between the joint portion and the inner bottom surface of the housing and the between the

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connection portion and the inner bottom surface of the housing, and that the body portion is a single unit divided into a plurality of integral portions.

Sakurai et al. discloses a connector comprising a housing (see Fig. 4, ref. 42) having a through hole (see Fig. 4, ref. 42a, 42b) and a hanging projection portion formed at an inner bottom surface of the through hole (see Fig. 4, ref. 40); and a body portion inserted into the through hole from one side opening of the through hole (see Fig. 4, ref. 20), for providing a power supplying line with external power through the power supply line (see col. 3, lines 20-33), wherein the body portion comprises a joint portion for fixing the body portion to the power supply line (see Fig. 4, ref. 22), a head portion having a step portion engaged with a hanging projection of the housing (see Fig. 4, ref. 40, 33), and a connection portion formed with an inclination that is negatively inclined along its insertion direction (see Fig. 4, ref. 20), for connecting the head portion thereby connected with the joint portion (see Fig. 4, ref. 22, 20); wherein a distance between the head portion and the inner top surface of the housing on which the hanging projection is formed is different from that between the joint portion and the inner top surface of the housing and that between the connection portion and the inner top surface of the housing (see Fig. 4, ref. 20, 22, 30). AAPA discloses a head portion comprising a hanging jaw, and that the body portion is a single unit and divided into a plurality of integral portions (see Fig. 3A, ref. 166A, 166).

It would have been obvious to one having ordinary skill in the art at the time the invention was made for connector to comprise a housing having a through hole and a hanging projection at an inner bottom surface of the through hole; and a body portion inserted into the through hole from one side opening of the through hole, for providing the power supplying line

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with the external power through the power supply line, and wherein the body comprises a joint portion for fixing the body portion to the power supply line, a head portion having a hanging jaw engaged with the hanging projection of the housing, and a connection portion formed with an inclination that is negatively inclined along its insertion direction and faces with the inner bottom surface of the housing, the head portion thereby connected with the joint portion; wherein a distance between the head portion and the inner portion of the inner bottom surface of the housing on which the hanging projection is formed is different from that between the joint portion and the inner bottom surface of the housing and the between the connection portion and the inner bottom surface of the housing since one would be motivated to improve the ease of operating the device. According to Sakurai et al., “the operation for releasing the engagement between the female terminal and a locking arm in a cavity of a connector housing in which the female terminal is fitted can be easily performed” (see col. 2, lines 5-11). Moreover, by utilizing the locking mechanism, as disclosed in Sakurai et al., inadvertent dislodging of the terminal to the housing could be prevented, improving the reliability of the device. Further, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the connector body comprise a hanging jaw as opposed to the step portion, disclosed in Sakurai et al., in order to further lock the terminal with the housing to prevent dislodging between the two. Further, whether the step-like portion is integral to the housing and the hanging jaw is integral to the connector, or vice versa, either arrangement would provide an equally effective locking mechanism between the housing and the terminal. Therefore, such a modification would be functionally equivalent. Moreover, it has been held that a mere reversal of the essential working parts of a device involves only routine skill in the art. *In re Einstein*, 8 USPQ 167.

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Moreover, it would have been obvious to one having ordinary skill in the art at the time the invention was made for the negatively inclined portion to face the inner bottom surface of the housing and the distance between the head portion and the inner portion of the inner bottom surface of the housing on which the hanging projection is formed is different from that between the joint portion and the inner bottom surface of the housing and the between the connection portion and the inner bottom surface of the housing since such a modification only accounts for the overall orientation of the connector. If the connector were to be rotated 180 degrees, the inclined portion would indeed face the bottom surface of the housing. Further, both inclines are directed toward the center of the terminal, allowing additional space between the connector and the housing. Therefore, whether the incline faces the inner bottom surface or the top surface of the housing, the direction in which the incline faces is not a critical limitation, and neither orientation provides a clear advantage over the other. Furthermore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the body portion be a single unit and divided into a plurality of integral portions since one would be motivated to improve the stability of the device. Through such a modification, there would be less separate pieces involved in the device, improving overall durability.

Referring to claims 4 and 7, Sakurai et al. discloses that the inclination has an inclination angle in a range of about 9 degrees to 10 degrees.

4. Claims 8-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ogo et al. in view of Lee, Sakurai et al. and admitted prior art (AAPA).

Referring to claims 8, 10 and 11, Ogo et al. discloses an LCD comprising a lamp for generating light (see Fig. 9, ref. 1); a light guiding unit for guiding the light generated from the lamp (see Fig. 9, ref. 3); and a display unit for displaying an image in response to the light guided by the light guiding unit (see Fig. 9, ref. 6). However, the reference does not disclose a power supply line of which one end is connected to the lamp; a connector connected to the other ends of the power supply line, for providing external power to the lamp through the power supply line; wherein the connector comprises a housing having a through hole and a hanging projection formed at an inner bottom surface of the through hole; and a body portion inserted into the through hole from one side opening of the through hole, for providing the external power to the lamp through the power supply line; and wherein the body portion comprises a joint portion for fixing the body portion to the power supply line; a head portion having a hanging jaw engaged with the hanging projection of the housing, and a connection portion formed with an inclination that is negatively inclined along its insertion direction and faces the inner bottom surface of the housing, the head portion thereby connected with the joint portion; wherein a distance between the head portion and the inner bottom surfaces of the housing on which the hanging projection is formed is different from that between the joint portion and the inner bottom surface of the housing and that between the connection portion and the inner bottom surface of the housing, and that the body portion is a single unit divided into a plurality of integral portions.

Lee discloses a device comprising a lamp for generating a light (see Fig. 2, ref. 16); a power supply line of which one end is connected to the lamp (see Fig. 2, ref. 24); and a connector connected to the other end of the power supply line, for providing external power to the lamp through the power supply line (see Fig. 2, ref. 26). Sakurai et al. discloses a connector

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comprising a housing (see Fig. 4, ref. 42) having a through hole (see Fig. 4, ref. 42a, 42b) and a hanging projection portion formed at an inner bottom surface of the through hole (see Fig. 4, ref. 40); and a body portion inserted into the through hole from one side opening of the through hole (see Fig. 4, ref. 20), for providing a power supplying line with external power through the power supply line (see col. 3, lines 20-33), wherein the body portion comprises a joint portion for fixing the body portion to the power supply line (see Fig. 4, ref. 22), a head portion having a step portion engaged with a hanging projection of the housing (see Fig. 4, ref. 40, 33), and a connection portion formed with an inclination that is negatively inclined along its insertion direction (see Fig. 4, ref. 20), for connecting the head portion thereby connected with the joint portion (see Fig. 4, ref. 22, 20); wherein a distance between the head portion and the inner top surface of the housing on which the hanging projection is formed is different from that between the joint portion and the inner top surface of the housing and that between the connection portion and the inner top surface of the housing (see Fig. 4, ref. 20, 22, 30). AAPA discloses a head portion comprising a hanging jaw, and that the body portion is a single unit and divided into a plurality of integral portions (see Fig. 3A, ref. 166A, 166).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ a power supply line of which one end is connected to the lamp; a connector connected to the other ends of the power supply line, for providing external power to the lamp through the power supply line since one would be motivated to selectively power on the backlight by directly providing external power, thereby allowing for reliable operation of the device. Moreover, it would have been obvious to one having ordinary skill in the art at the time the invention was made for connector to comprise a housing having a through hole and a hanging

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projection at an inner bottom surface of the through hole; and a body portion inserted into the through hole from one side opening of the through hole, for providing the power supplying line with the external power through the power supply line, and wherein the body comprises a joint portion for fixing the body portion to the power supply line, a head portion having a hanging jaw engaged with the hanging projection of the housing, and a connection portion formed with an inclination that is negatively inclined along its insertion direction and faces with the inner bottom surface of the housing, the head portion thereby connected with the joint portion; wherein a distance between the head portion and the inner portion of the inner bottom surface of the housing on which the hanging projection is formed is different from that between the joint portion and the inner bottom surface of the housing and the between the connection portion and the inner bottom surface of the housing since one would be motivated to improve the ease of operating the device. According to Sakurai et al., “the operation for releasing the engagement between the female terminal and a locking arm in a cavity of a connector housing in which the female terminal is fitted can be easily performed” (see col. 2, lines 5-11). Moreover, by utilizing the locking mechanism, as disclosed in Sakurai et al., inadvertent dislodging of the terminal to the housing could be prevented, improving the reliability of the device. Further, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the connector body comprise a hanging jaw as opposed to the step portion, disclosed in Sakurai et al., in order to further lock the terminal with the housing to prevent dislodging between the two. Further, whether the step-like portion is integral to the housing and the hanging jaw is integral to the connector, or vice versa, either arrangement would provide an equally effective locking mechanism between the housing and the terminal. Therefore, such a modification would

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be functionally equivalent. Moreover, it has been held that a mere reversal of the essential working parts of a device involves only routine skill in the art. *In re Einstein*, 8 USPQ 167. Moreover, it would have been obvious to one having ordinary skill in the art at the time the invention was made for the negatively inclined portion to face the inner bottom surface of the housing and the distance between the head portion and the inner portion of the inner bottom surface of the housing on which the hanging projection is formed is different from that between the joint portion and the inner bottom surface of the housing and the between the connection portion and the inner bottom surface of the housing since such a modification only accounts for the overall orientation of the connector. If the connector were to be rotated 180 degrees, the inclined portion would indeed face the bottom surface of the housing. Further, both inclines are directed toward the center of the terminal, allowing additional space between the connector and the housing. Therefore, whether the incline faces the inner bottom surface or the top surface of the housing, the direction in which the incline faces is not a critical limitation, and neither orientation provides a clear advantage over the other. Furthermore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the body portion be a single unit and divided into a plurality of integral portions since one would be motivated to improve the stability of the device. Through such a modification, there would be less separate pieces involved in the device, improving overall durability.

Referring to claims 9 and 12, Sakurai et al. discloses that the inclination has an inclination angle in a range of about 9 degrees to 10 degrees.

Response to Arguments

5. Applicant's arguments filed 4 August 2003 have been fully considered but they are not persuasive.

6. In response to Applicant's argument that neither reference shows a device wherein the body portion is a single unit and divided into a plurality of integral portions, Examiner recognizes the references' shortcomings. However, the added limitation necessitated the incorporation of a secondary teaching to the admitted prior art.

7. Applicant's arguments with respect to claims 1-12 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard Kim whose telephone number is (703)305-4791. The examiner can normally be reached on 9:00-6:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H Kim can be reached on (703)305-3492. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0956.

Richard Kim
Examiner
Art Unit 2871

RHK


TOANTON
PRIMARY EXAMINER